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# **Housing Finance in Developing Countries**

## **A Transaction Cost Approach**

**Robert M. Buckley**

**Reducing transaction costs in the housing sector would make financial systems more efficient and reduce economic distortions in most developing countries.**

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In most developing countries, relatively little mortgage credit is supplied voluntarily, mainly because of the high transaction costs associated with enforcing contracts.

In most countries, the supply of mortgage credit is restrained more by the cost of post-contract governance than by the cost of producing contracts.

This distinction is important because before-contract costs are dictated by technological conditions — that is, the nature of the production function — so little can be done to change them. The costs of governance, on the other hand, are more amenable to change. If there are signifi-

cant gains from reducing these costs, institutional reforms may help realize them.

In the lowest-income countries, the before-contract transaction costs of providing housing finance are probably high enough per loan dollar that low levels of demand explain the relative smallness of the housing sector.

In most other developing countries, housing finance systems could grow more spontaneously and rapidly if there were more effective post-contract enforcement procedures. This growth would improve the efficiency of financial systems and reduce distortions in the economy — so the economic benefits of reducing housing transaction costs are likely to be significant.

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A Transaction Cost Approach**

by  
**Robert M. Buckley\***

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## I. INTRODUCTION

In most developing countries relatively little mortgage credit is voluntarily supplied. The main reason is the high cost of enforcing contracts, a form of transaction cost of the sort discussed by Williamson (1985). In most countries, it is the cost of post-contract governance rather than the ex ante cost of producing contracts that explains the restrained supply of mortgage credit. This is an important distinction because ex ante costs are dictated by technological conditions i.e., the nature of the production function, and consequently little can be done to change them. The costs of governance, on the other hand, are more amenable to change. Hence if there are significant gains from reducing these costs, institutional reforms may help realize them.

The second topic of this paper is a discussion of the whether there are significant gains for the economy and the housing sector of reducing these transaction costs. The central conclusions of this discussion are three: (i) in the lowest-income countries, the ex ante transaction costs of providing housing finance are probably sufficiently high per dollar of loan that low levels of demand explain the relatively small size of this sector; however, (ii) in most other developing countries, housing finance systems would be able to grow more spontaneously and rapidly if there were more effective ex-post contract enforcement procedures; and (iii) this growth would improve the efficiency of financial systems and reduce the distortions in the economy. Hence the economic benefits of reducing transaction costs in this sector are likely to be significant.

The plan of the paper is as follows. Section II briefly discusses the role of housing and housing finance in the economy. It shows that in most developing countries relatively little mortgage credit is supplied by formal financial intermediaries. It also illustrates why the transaction cost approach suggests a much stronger rationale for improving housing finance systems in developing countries than does what might be termed the traditional economic perspective on financial policy.

Sections III and IV each consider particular qualities of housing investments that Section II suggests have a bearing on the demand for and supply of housing finance. The qualities are housing's durability, and its potential strength as collateral. A fifth section compares the role of ex post and ex ante transaction costs in explaining the kinds of housing finance systems that are observed in developing countries such as India.

## **II. HOUSING, HOUSING FINANCE, AND THE ECONOMY**

Housing investment typically amounts to 3 to 8 percent of GDP and 15 to 30 percent of gross fixed capital formation. It is usually the largest single form of household wealth and accounts for between one-quarter and one-half of the capital stock in developed and developing countries.<sup>1/</sup> However, the share of housing investment that is financed by formal financial intermediaries in almost all developing countries is very small, and housing finance accounts for only a small share of financial assets.

Table 1 presents estimates of the ratio of net new mortgage lending from the formal financial sector to the level of housing

investment in a number of developing and developed economies. It indicates that in developing countries a much greater share of housing investments comes from internally generated funds. The average ratio of mortgage credit supplied by the formal sector to housing investment was less than 22 percent in developing countries (if Colombia, with its very effective housing finance system, is excluded as being atypical of developing countries the average falls to 16 percent), or less than one-fifth of the level the OECD countries.

In none of the countries surveyed did home mortgages account for a significant share of financial assets. They certainly did not account for more than 20 percent of financial assets as they did at the beginning of the century in the countries examined by Goldsmith (1969).<sup>2/</sup> While it is difficult to quantify the availability of formal housing finance in developing countries in simple but definitive summary statistics, World Bank reviews of housing and financial sector reports are consistent with the Table i.e., the formal sector supply of housing finance is almost ubiquitously very small.

#### A. Housing Finance and the Financial Needs of Other Investors

Housing is the only investment in which an individual is usually also the single largest consumer of the services produced by the investment. The good is imperfectly divisible so that the return on the investment cannot easily be parceled out and sold in units of varying sizes (although it is often subdivided). It is also lumpy, meaning that the annual expenditures on it account for a significant share of all household expenditures. As a result, at least in most developing countries, investors in housing are essentially investing in a good that they will lease to themselves for a long time.<sup>3/</sup> Finally, the most

obvious service provided by housing is consumption, the flow of imputed rental income.

Encouraging the development of a financial services industry to provide finance to what after construction will be a capital-intensive, consumer-goods industry has quite reasonably not been of high priority in development finance policy. Because housing finance facilitates investment in a good that does not directly produce much if any additional output for non-beneficiaries, it is not surprising that housing finance improvements have been largely ignored by the development finance literature, or until recently by World Bank loans.<sup>4/</sup>

However, the transaction cost perspective suggests that housing finance improvements can have significant beneficial effects on the economy without ambitious real output objectives. As long as housing finance innovations can be expected to help significantly improve the arrangements of household income and consumption streams, they are desirable even when there is complete agnosticism as to the appropriate level of housing production or the effects that improved housing finance policy might have on it.

If such innovations are not necessarily intended to have real output effects, a major issue is why they can be expected to be able to improve households' ability to arrange their income and consumption streams. The answer, as shown below, is that in the appropriate legal environment, housing can be one of the best forms of collateral. As a result, the cost of borrowing against housing will be one of the lowest cost forms of debt available. At the margin, all non-corporate borrowers, not just households, will want to rely on this form of finance for their major expenditures. Farmers would rather use a

mortgage to finance inputs than they would a loan collateralized by chattel. Similarly, small enterprises would prefer to borrow against the value of the owner's property than against the probability of success of a new enterprise.

The argument for greater access to market-rate housing finance is really a broader argument that implies that greater recognition be given to the costs of relying on the directed credit systems that characterize the financial systems of almost all developing countries. A major consideration then, and one that housing finance innovations can help address, is the cost of mispricing credit risks. Targeting credit on particular outputs as has been done (e.g., agriculture, social housing, or even just new housing) and away from other, "unproductive" investments, eliminates the financial system's ability to price and allocate risks. It causes many borrowers to have to rely on much more costly substitutes and as a consequence affects many of the most basic costs that confront non-corporate borrowers. As is discussed below, the proximate result of such collateral substitution can be a prohibitively large increase in the cost of borrowing. The ultimate result is that housing finance policy can be one of the most basic pricing policies that governments undertake.

Ironically, financial regulations designed to protect borrowers from unscrupulous lenders foreclosing on their properties often prevent housing from being used as collateral. These kinds of protections arise because, as Goldsmith (1987) says of premodern finance, "...in the case of trade credit, debtor and creditor are businessmen and the relationship is a voluntary and basically equal one, while consumer credit is often the result of necessity and the power of



the debtor, usually a peasant or small artisan is much weaker than that of the lender..." Unfortunately, the consequences of such protection, as discussed in Section IV, are more risky investments by financial intermediaries, higher costs of borrowing for most families, and very likely less housing.

#### B. Transaction Costs and Housing Finance

Two characteristics of housing investment make its debt an especially safe form of lending: its durability, and its real-denominated return. When properly constructed, housing is the most durable of fixed capital in the economy, and its value is one of the most impervious to use.<sup>5/</sup> And, because people need housing throughout their lifetime, and a house is often given as part of the bequests families leave to their heirs, housing accounts for a large part of household wealth. Of course, the use of materials with a short-life-time, as is often done in developing countries, can reduce housing's durability.

Housing's durability also affects the demand for financing. When the long asset life of the investment is combined with the lumpy, largely non-pecuniary services it provides, the result is that housing production often needs financing in order to be undertaken. For such financing to be most effective it should have a maturity that is similar to the asset life or the expected length of the resident's working life, that is, also be long-term. This kind of long-term contract requires a set of rules for determining how the contractual obligations might be adjusted or modified if the circumstances of the borrower or lender change during the course of the contract.

Because housing is a form of wealth that is highly redeployable these rules can, from the lender's perspective, be relatively straightforward. If the loan is not repaid the house can easily be transferred to another family without loss of value due to the transfer. Moreover, even if the borrower loses his or her source of income, default on repayment is not automatically the best strategy to pursue, at least as long as the value of the house exceeds that of the outstanding mortgage. Even if the outstanding debt does exceed the value of the property, households often do not default because of the indirect costs to them of doing so--the loss in the value of their reputation, etc. Consequently, the default risk of mortgage repayments should be low, and the risk-adjusted borrowing rate should reflect this lower level of risk.<sup>6/</sup>

Unfortunately, from the borrower's perspective, contract resolution in the event of a change in the ability to repay is anything but straightforward. Eviction is a difficult procedure to implement even when it is seen as a fair and reasonable reaction to the behavior of a borrower. When the eviction is of a poor family that has had bad luck, it can easily become a political event in which the cost of forbearance by a public lender is overlooked. As a result, it is often difficult to supply the kinds of credible contracts that would protect lenders from risks that they will be exploited if circumstances permit. In such environments, housing finance's inherent safety due to housing's redeployability is more than offset by the lender's having little recourse to remedies.

A second characteristic that affects housing's collateral strength is its relatively stable real-denominated return. In

urbanizing economies with limited savings options, housing is one of the principal savings vehicles. Because its return is in real (rather than in nominal) terms it is less affected by changes in financial regulations, such as interest rate ceilings, than are other investments. It also does not appear to be as adversely affected by unanticipated increases in the inflation rate as is the return to many other investments.<sup>7/</sup> Finally, both theory and empirical evidence suggest that housing's value is likely to increase as economies urbanize regardless of the efficacy of the financial system.<sup>8/</sup> Nevertheless, the price and attractiveness of such real-denominated assets depends very fundamentally on the credibility and breadth of the financial system, as well as on the regulations and infrastructure investments that govern urban land uses. When financial policies cause financial assets to yield negative real returns, households opportunistically avoid these "taxes on saving" by saving in the form of bricks and mortar. When the financial system is not credible and/or the urban regulatory environment is not flexible, the price of urban shelter can often become not affordable.

### III. HOUSING'S DURABILITY

It is common to find houses in use in many countries that were built hundreds of years ago. Moreover, the fact that only a tiny portion of the housing stock of a country is very old does not mean that housing depreciates or wears out at a particular rate. More commonly, housing is demolished because the land value has changed in such a way that it becomes more economical and efficient to provide housing services through a different type of structure, or to use the land to

provide other kinds of services, such as office buildings. Hence, while it may be difficult to determine how long a house can be expected to last, it is likely to be one of the longest-lived goods in the economy. Housing's durability has very basic effects on the affordability of both housing and the debt that is needed to finance it.

#### A. The Mortgage Repayment Tilt Problem

Mortgage debt affordability is an insidious problem because unlike most other sectors of the economy, changes in the inflation rate can make it less affordable. As a result housing can become less affordable without any change in real income or real prices. Inflation can have such "real-side" effects on the efficacy of mortgage contracts because of the nature of long-term mortgage debt contracts written in nominal terms. Even relatively low rates of inflation redistribute real mortgage repayments towards the early years of a mortgage loan, making payments out of income in those years more difficult.<sup>9/</sup> As is well known, this change in borrowing costs is a redistribution of real costs, not an increase in costs. Unfortunately, it is a redistribution in a direction that is opposite to the one preferred by families whose income can keep pace with inflation over the longer term.

Figure 1 looks at the implications of this "tilting," or "front-loading," of real mortgage repayments from an aggregate rather than individual perspective. It examines how increases in the rate of inflation can affect the number of households able to pay 25 percent of family income to afford the same-priced house with the same-sized downpayment.

The income distribution figures are for urban family income for Turkey for 1985.<sup>10/</sup> Point A represents the income level needed to

qualify for a house that costs 2.5 times the median urban family income, if the household were able to make a 30 percent downpayment and could finance a 20-year fixed-interest rate loan. The interest rate on the loan reflects a 6 percent real interest rate, and the slightly less than 9 percent inflation rate that characterized the 1950-74 period. The income needed to qualify is slightly more than the median income level, the 60th percentile, because lenders are assumed to require that households spend no more than 25 percent of their income on mortgage payments.<sup>11/</sup> Point B reflects the income level needed to finance a fixed-interest rate loan that incorporates the higher inflation rates of more recent years. Instead of a 15 percent nominal interest rate, the interest rate is 36 percent. If the increase in inflation from 9 to 30 percent was anticipated, in the absence of contracts that adjust for this change in the distribution of real repayments, it would have priced homeownership out of the reach of all but the highest-income families. The absence of such contracts imposes a large cost of transacting on a large number of families.

#### The Policy Response to Mortgage Affordability Problems

Policy makers in developing countries have responded to the mortgage affordability problems in two basic ways: through credit subsidies or through redesign of the mortgage contract, usually through some form of indexation of repayments. The former approach will be discussed in Section IV. Here the latter approach is considered. Indexation attempts to immunize the real value of mortgage repayments from the high and uncertain rate of inflation anticipated at loan origination, which creates the severe cash-flow problem described by Figure 1.

In high-inflation countries, such as those of Latin America, mortgage indexation was introduced to ameliorate housing affordability problems. However, these instruments were not introduced to facilitate the contracting undertaken by two parties in an inflationary environment, as has been suggested by a number of observers, e.g. Friedman (1974). The movement away from the use of nominal-interest rate, level-payment mortgage schedules (as occurred Chile in 1959, Brazil in 1964, Colombia in 1972, and Argentina in 1976) was the result of governments' selective credit policies rather than market participants modifying their contracting methods.<sup>12/</sup> While indexed contracts were a cost-effective means of restructuring payments to lower payments and redistribute the high real initial costs, they were not an effective means of introducing the kinds of credible contracts that would induce investors to be willing to share the risks posed by indexation. Ex post, in every case except Colombia, the approaches that have been implemented have experienced serious problems.

The main problem has been that loan repayments were often indexed to wages rather than to prices and steady real wage growth stopped. When real wage reductions occurred, the indexes produced automatic loan forgiveness rather than loan forbearance. Forgiveness applied equally to those whose wages out-performed the general index and those whose wages did not. In this respect, the indexes were a form of real wage insurance rather than a mortgage contract. It is of course the case that an indexed loan increases lenders' exposure to real economic risks. However, the use of indexes that automatically discount the borrower's liability if average real wages do not increase does more than increase the riskiness of such loans. If the real interest charged

does not compensate for these additional risks, the loan terms create a situation in which the contract is not credible, and only publicly supported and implicitly subsidized lenders participate.

As a means of reducing mortgage affordability concerns (rather than housing affordability problems), indexation has much to recommend it, particularly relative to credit subsidies. With indexed repayments long-term mortgages can be attractive investments to long-term investors. However, it is difficult to exaggerate either the importance of the credibility of the mortgage design to success of such efforts or the likelihood that such instruments will not perform in financial environments in which inflation remains at extremely high and volatile levels. Hence the costs and benefits of mortgage indexation depend very basically on the design of the instrument.

Because of housing's durability mortgage design must take real as opposed to nominal repayments into account. Otherwise the cash-flow problems of mortgage contracting, rather than rates of return on investment, will dominate decision-making with respect to housing investment. Equally important in mortgage design is the recognition that solving the mortgage cash-flow problem through indexation exposes the lender to another risk, i.e., that real wages will permit higher nominal payments to be made. In some environments this risk is a large one and failure to price or reward this kind of risk-taking will result in a contracting process that is not credible.

#### IV. HOUSING'S COLLATERAL EFFICIENCY

Housing can be a relatively strong form of collateral for three reasons. First, its value after a household's lifetime

consumption of housing services is relatively high, and the behavior of this value depends less on the skills of the occupants or, as shown in Table 2, the behavior of the economy than do the values of most other assets. The simplicity and relative constancy of its yield makes it less likely that the value of the asset financed will fall below the value of the debt used to finance the asset. As a consequence, it is less likely that the borrower will be willing to trade the house for the mortgage, as occurs in a foreclosure.

Second, unlike other real assets that are durable and subject to little value degradation with use--e.g., gold and diamonds, housing is fixed-capital. It is not easy to abscond with, which makes it safer against fraudulent practices, and, it requires relatively few underwriting precautions and relatively little diligence in monitoring the behavior of the borrower.<sup>13/</sup>

Finally, housing can be a strong form of collateral because the services it provides are generally, and in developing countries increasingly, demanded. While investment in, e.g., a steel plant will incur a loss if the venture fails, the houses occupied by the employees of the failed plant are less likely to lose as much value as is the plant. The plant is highly specialized and can only produce steel; the house can be redeployed to provide housing services to the employees of other industries. It can be sold or rented to other workers of another, more successful venture. More importantly, the steel plant employees' skills are also more flexible than is the plant's capital. They can often change jobs and continue to be able to repay their loan. Of course, this is not to say that households will always have such options. Rather it is to suggest that they are likely to have more of them more often than will specialized investors.



Besides being a less risky investment than is investment in a single-use project, such as the steel plant, empirical evidence suggests that housing is also less risky than is a general investment in equities. For instance, as Cunningham and Hendershott (1984) have shown, the interest rate adjustment needed to compensate for the risk associated with default risk in the U.S. has been on the order of 1/2 percent per annum for loans with loan-to-value ratios of 90 percent. This is a credit risk fee that is a fraction of the fee charged preferential corporate borrowers.<sup>14/</sup>

Table 2 presents data on the volatility of house prices vis-a-vis that of an investment in equities in a number of countries. This measure is helpful in assessing housing's collateral strength because the risk that loans will not be repaid is greatest if the value of the outstanding mortgage exceeds the value of the house.<sup>15/</sup> Housing's relatively low volatility implies that the risk of households repaying mortgage loans should be lower than are the risks associated with financing more price-volatile assets.

The Table presents the coefficient of variation of time series data on the real price of housing and the stock market indices for various types of economies: developing countries with high inflation rates that have experienced substantial real shocks, a relatively low-inflation developing economy, a high growth rate developing country and developed low and high inflation economies. With real interest rate and income changes real house prices fell in all cases, sometimes fairly sharply. However, in no case was the drop anything like the reduction in stock market values. Italy experienced the highest relative real house price volatility, and this was less than half the volatility of the stock market index.

Of course since most homeowners can only own one house the cross-sectional variance of the return to housing and its covariance with the returns on other assets is also very important in evaluating housing's collateral efficiency. Sufficient data do not exist with respect to housing's cross-sectional variance. However, Friedman (1985) has examined housing's covariance properties. He concludes that in the U.S. it is much less risky than are investments in debt, either short or long-term, or equities. Hence even if the return to housing has a high cross-sectional variance, a fall in house prices is likely to be contemporaneous with a smaller decline in overall wealth than is the case for a fall in the value of other forms of wealth. As a result, housing investments will tend to be safe relative not only to specific investments but to investments that are diversified across economies. This collateral strength of housing implies that availability of market-rate credit for this asset has implications for both borrowers and lenders.

A. Borrower Concerns with Housing's Collateral Efficiency

Borrowers' concerns with housing's collateral efficiency arise because of the long-run fungibility of credit. That is, over the long-run, households attempt to finance their investments with the lowest-cost credit. As has been stressed, if housing provides the safest collateral, all other things being constant, it should also be one of the least costly ways to borrow. This view was first made with respect to mortgage credit by Meltzer (1974). He showed that over the 20th century the share of mortgage credit in household liabilities in the U.S. grew much more rapidly than did the share of housing in household wealth.

The data in Figure 2, for a longer time period, corroborate his basic point: the rate of increase in the housing/wealth ratio was not as rapid as the increase in mortgage indebtedness. The implied loan-to-value ratio increased from approximately .3 in 1805 to .6 in 1978. While neither ratio can be considered as excessive, the trend suggests U.S. households have been using the relatively inexpensive mortgage credit to finance expenditures other than housing.

For borrowers in developing countries, restrictions on being able to rely upon the collateral efficiency of housing is likely to be more important than in developed countries because there are fewer other ways to collateralize the human capital that will produce higher future earnings. As a result, the cost implied by restricting access to market-rate mortgage credit is higher in these countries than it is in countries where borrowers have greater access to alternatives. If one takes a life-cycle view of consumer behavior, it is clear that it is younger households who bear most of the incidence of this restriction.

#### B. Lender Concerns with Housing's Collateral Efficiency

Developing country lender concerns with housing's collateral efficiency arise for two reasons. First, the technical insolvency of such a large portion of developing country Development Finance Institutions indicates that ex post these lenders have underpriced risks they have assumed.<sup>16/</sup> An important part of any restructuring strategy for these institutions should be encouragement of safer lending. Housing's collateral efficiency suggests that correctly priced mortgage finance can be part of this "flight to safety." This is particularly true of financial systems that are deregulating and removing portfolio restrictions. Less constrained lenders are by definition able to take

more risks, and investing in market-rate mortgages can be part of a risk-tempering deregulation strategy.<sup>17/</sup>

Second, financiers of few other assets can reasonably assume that demand for assets they are financing will be income-elastic over a wide range of development.<sup>18/</sup> Mortgage intermediation can be expected to yield not only a safe positive return to savers, but also a growing source of safe income with which to mobilize the financial savings of the household sector. By providing market-rate mortgage credit as well as deposit-taking services intermediaries may be able to more effectively mobilize resources from households.

#### C. The Policy Response to Housing's Collateral Efficiency

In few developing countries are lenders able to exploit the inherent collateral safety of housing loans. When land tenure rights are ambiguous, or foreclosure proceedings uncertain or interminable, what in principle is a low-risk loan in practice becomes a high-risk one. For example, an Indian government study showed that it could take "not less than ten years" to foreclose on a mortgage borrower who had not made payments.<sup>19/</sup>

Such a basis of proceeding has to be both inefficient and an encouragement to act in financially disreputable ways. Similarly, while public investment in land titling and recordation systems may appear to be a significant expenditure, lack of such titles forces borrowers to rely on their next most effective form of collateral which for many borrowers are either non existent or much more expensive (e.g., pawn shops). Recently an Indian company, The Housing Development Finance Company of Bombay (HDFC), has used an effective way to circumvent these kinds of contract enforcement problems. In the next section their

approach will be contrasted with what might be termed as ex ante transaction cost explanation for the limited supply of housing finance in India.

#### **V. TRANSACTION COSTS AND HOUSING FINANCE IN INDIA**

According to Morris (1985) as of 1980 formal housing finance in India was virtually non existent even though the financial system was highly developed. The explanations that have been offered for this state of affairs correspond to what might be termed a traditional economic explanation for the relatively weak development of housing finance systems in most developing countries. That is, the systems are not observed because at existing prices they have not been wanted. The ex ante administrative costs of the loans are too high, the affordable loan sizes too low to interest investors, or formal lenders cannot compete with the loan terms made available through the inter-family or informal loan market. The result, then, is little or no supply of formal housing finance because at the market price there is little or no demand. According to this view, the technological constraints are prohibitive. Consider the premises of this line of argument.

##### **A. Reconsidering the High Ex Ante Cost Explanation**

The high ex ante cost explanation has two premises: (i) When administrative costs per mortgage loan are combined with small loan sizes, the effective borrowing costs are sufficiently high that demand for credit is discouraged; and (ii) Even if the first point is inaccurate, the proportion of income households are willing and able to pay to service mortgage debt payments is such that the aggregate demand for this credit is not likely to be a major credit market activity. For India both of these premises are dubious.

The high administrative cost argument is of course correct in an absolute sense. There are some relatively fixed costs, call these costs  $F$ , associated with all lending, and amortizing these costs over smaller loan sizes necessarily results in higher effective interest rates,  $F+R$ , where  $R$  is the risk free cost of funds. These higher rates, in turn, will reduce the demand for mortgage credit. However, the amount by which these higher administrative costs increase the total cost of borrowing--where the total cost of borrowing  $C=F+R+D$ , and  $D$  is a risk premium for the loan's being repaid--is almost certainly less than the amount that housing's collateral safety reduces the risk premium,  $D$ , that lenders require. For example, mortgage loans made by the HDFC of India earn a spread of less than 3 percent over the cost of funds that have a maturity similar to that of its mortgages. This figure is less than half the increase in borrowing costs on unsecured loans relative to secured loans in India. Hence even if the fixed administrative costs on mortgages are absolutely high, the expected default costs are much lower. When all the costs are taken together housing should still be an inexpensive way to borrow.<sup>20/</sup> The appropriate benchmark for considering whether these kinds of costs are likely to limit the growth of intermediation in the sector is their size relative to the difference in total costs between borrowing on secured and unsecured loans.

The second ex ante line of argument as to why there is little or no demand for housing financial services in developing countries--that household repayment capacity limits demand--is flawed for two reasons. First, it focuses only on flows of income, and minimum housing costs rather than on possible adjustments of household portfolios. Second, it understates demand by relying on expenditures on housing

consumption as a measure of how much people would be willing to pay for homes.

An example of the first type of argument is made by Mohan (1987). He estimates that if households in India were willing to spend some reasonable portion of their income on mortgage repayments, even 20 to 30 percent, and the credit markets would accommodate these demands, the aggregate share of credit market activity in mortgage credit would not reach significant levels over the near term because few households could afford the minimum housing unit.

This line of argument overlooks the fact that in 1978 household holdings of gold and precious metals in India were equal to 70 percent of real estate holdings. By comparison, in the beginning of the 19th century households in four of today's developed economies had precious metal holdings equal to less than 18 percent of their real estate holdings.<sup>21/</sup> Moreover, this latter ratio declined for the next 100 years to less than 3 percent as financial systems developed. With increased access to market rate credit one would expect Indian families to be willing to shift some of their current real-denominated wealth holdings into similarly real-denominated housing investments.

These kinds of potentially enormous portfolio shifts are overlooked by mortgage demand estimates that focus only on household income levels compared to house costs.<sup>22/</sup> A similar problem of understating the likely demand for housing finance arises when analysts use estimates of how much households are willing to pay out of current income to consume housing services as renters to predict how much of current income they would be willing to allocate to mortgage payments. This approach necessarily overlooks the savings motivation for housing

demand. It will, as a result, overlook a source of demand that contributes to the observed high levels of house price-to-income ratios observed in many developing countries. The next section discusses a way in which the savings motivation for housing demand has been exploited. The method relies on informal norms rather than legal contract enforcement remedies to assure that loans are repaid.

**B. Bridging Informal Norms and Formal Financial Sector Requirements**

As stressed earlier, a contentious issue in many developing countries is the development of a fair and efficient way to resolve mortgage repayment disputes between lower- and moderate-income borrowers and large financial institutions. The importance of this kind of issue understandably increases in countries such as India, where lenders have traditionally been large landowners who lent at high real interest rates to borrowers who were often landless peasants living at near subsistence levels.<sup>23/</sup>

The Indian nationalization of the banking system and the massive and highly subsidized extension of commercial bank branches were part of a policy response to this kind of economic environment, with the state replacing the wealthy as lenders. Unfortunately, the policy also encouraged: (i) a banking culture that has tolerated excessive default and delinquency rates - the latter are in excess of 50 percent for many agricultural lenders;<sup>24/</sup> and (ii) according to the aforementioned Shah Report (1978), a legal system that can require exceedingly lengthy foreclosure proceedings.

The Indian approach to financial development lent itself to behavior in which people cannot be counted on to do what they said they would that is, to repay loans as they promised when they borrowed. Such



a hazardous formal financial environment is hardly hospitable to the development of market-oriented housing finance for moderate- and lower-income households. Nor is it conducive to the development of the financial system, because the low return on lending has consistently produced negative returns on most financial assets.<sup>25/</sup>

The Housing Development Finance Company of India (HDFC) has now operated for 10 years in this kind of environment, establishing branches all over India, and making more than 200,000 mortgage loans at market interest rates. Remarkably, although the loans have been made to lower- and moderate-income households, and have an average size of less than US\$4,000, they have produced a delinquency rate of less than 1 percent. This is a rate that compares very favorably with the experience of lenders in more developed economies. For instance, the U.S. Federal Housing Authority, (FHA) experiences a 7 percent default rate and a much higher delinquency rate on the unsubsidized loans it insures.

HDFC has accomplished this record by circumventing but not avoiding the formal mechanisms for dealing with loan disputes. Because legal regulations eliminated the threat that a borrower could quickly lose his property in the event of a default, HDFC focused on incentives and moral suasion outside of the legal system--in particular, on borrowers' concerns with their reputations. Third-party guarantees are sought on almost all loans. The "third party" is always someone the borrower respects - an older colleague or a relative, for example. Like the borrower, the guarantor also has to submit a financial statement to demonstrate an ability to repay the loan in the event that the borrower cannot or will not do so. If loans are not repaid promptly the borrower

is immediately notified. If his response is unsatisfactory, the threat of calling on the guarantor for repayment is raised, and ultimately followed through on in the face of further recalcitrance on the borrower's part.

If such follow-up still produces no response, legal action is initiated. Ultimately, neither the borrower nor the guarantor's rights are subverted by HDFC's appeal to informal values as way of inducing contract fulfillment. However, neither has HFDC relied on the formal legal code to provide the basis for effective contract governance. The value that the borrower is protecting by repaying is not the value of the house; it is the value of his reputation.

HDFC's success is a result of bridging informal cultural norms as to the reasonableness of fulfilling contracts with the formal financial sector needs. Its excellent record of loan recovery and payout to depositors provides the credibility essential to convince formal sector financial investors (such as corporations and other financial intermediaries) that deposits in the corporation are safe. Its underwriting practices represent a creative way of avoiding the high costs of enforcing contracts in the Indian legal system. By establishing a new "custom" of appropriate behavior it has made such activities attractive investments.

## VI. CONCLUSION

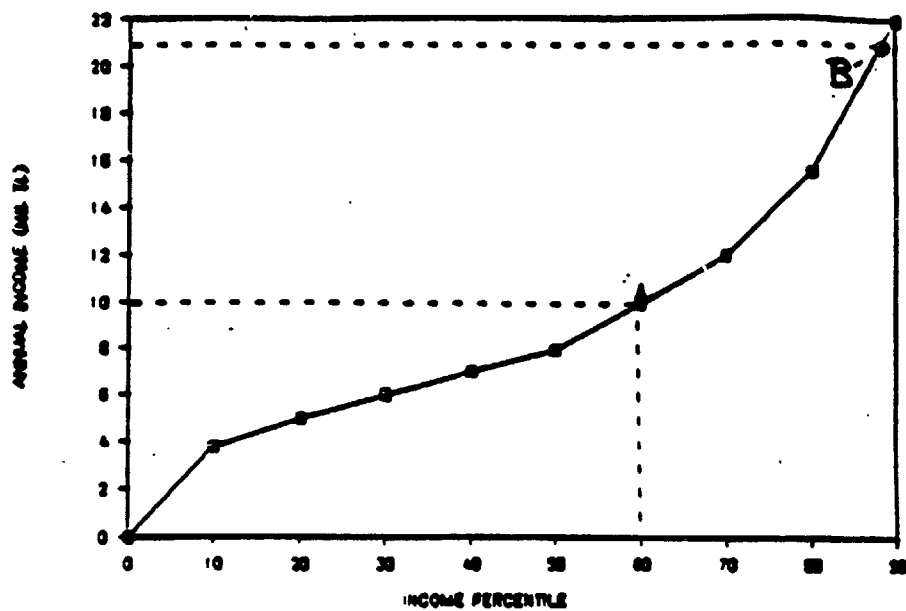
The role of better contract enforcement as a limiting factor on the growth of housing finance systems has been stressed here, nevertheless, it is also clear that in some developing countries there is relatively little demand for housing finance. For instance, if a

household wanted to spend only, say 5 percent of income on housing services, as might be the case in countries with very low per-capita incomes,<sup>26/</sup> if land titles were also unclear, and the administrative costs of intermediation exceeded 5 percent, formal housing finance would probably not be in great demand. In this kind of environment, mutual organizations can be expected to be very effective, offering their members a way to share and thereby reduce the administrative costs of intermediation. Even more importantly, they can help develop credible contracts requiring that loans be repaid as long as the borrower is able to do so.

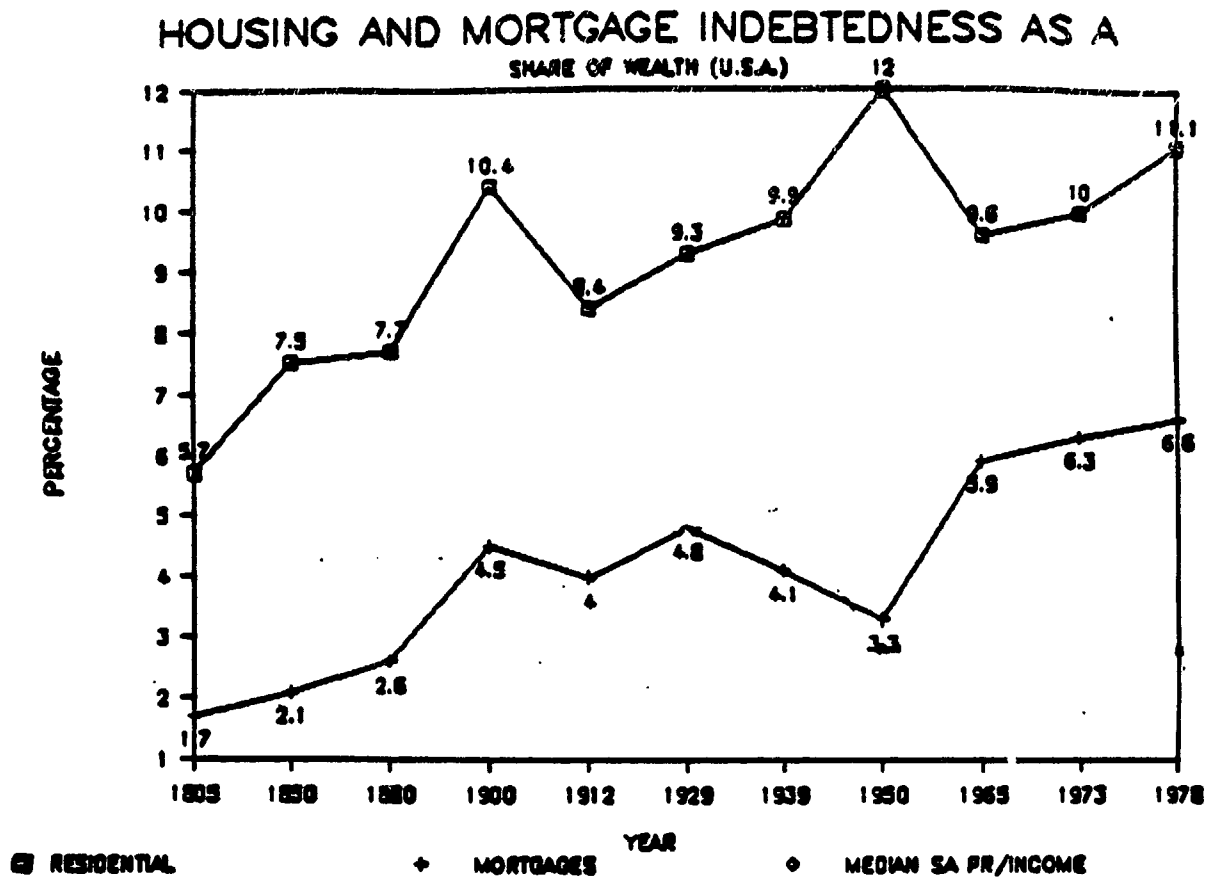
On the other hand, in countries where the basic urban and financial infrastructure already exists and in which there is an attempt to accelerate the development of the financial systems--that is, in most developing countries--housing finance reforms can play an important role in reducing transaction costs.<sup>27/</sup> Mechanisms that allow long-term contracts to protect the interests of both savers and borrowers--such as fair but efficient foreclosure procedures, and the appropriate type of mortgage instrument--can do much more than just contribute to a better-functioning housing market.

FIGURE 1

SHARE OF TURKISH URBAN HOUSEHOLDS ABLE TO AFFORD  
MORTGAGE REPAYMENTS WITH DIFFERENT RATES OF INFLATION



**FIGURE 2**



Sources: Goldsmith (1985)

**TABLE 1: INCREASE IN HOUSING CREDIT (HC) AS A SHARE OF  
HOUSING INVESTMENT (HI), SELECTED COUNTRIES**

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Country	HC/HI	Country	HC/HI
Mexico	.20	Kenya	.11
India	.10	Tunisia	.11
Turkey	.08	Korea	.20
Malaysia	.50	Pakistan	.11
Morocco	.15	Philippines	.26
Colombia	.75	Portugal	.20
United Kingdom	.58	Senegal	.06
		Thailand	.33
		United States	1.26
		Canada	.76
OECD Average excluding U.S. and Turkey			.85

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**Sources:** Various World Bank Sector Reports and particularly Renaud (1984); For the U.S. Anthony Downs; for the U.K., Building Society Gazette; OECD average is inferred from Vittas *et. al.* (1987). The Colombian figure is derived from Isaza (1987) with the assumption that land value is equal to 25 percent of house value. The figures are from the late 1970s.

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**TABLE 2: COEFFICIENTS OF VARIATION OF HOUSE  
PRICES AND STOCK MARKET INDEXES**

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<u>Country</u>	<u>House Prices</u>	<u>Stock Index</u>	<u>Ratio col.2/col.1</u>
Argentina	.090	.399	4.3
Brazil	.060	.325	5.4
Italy	.114	.294	2.6
Korea	.081	.471	5.8
Malaysia	.027	.120	4.4
United Kingdom	.075	.20	2.7
United States	.063	.141	2.2
Average	.073	.279	3.8

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**Sources:** Estatísticas Históricas Do Brasil, 1987; Business and Investment Almanac; S&P's Trade and Securities Statistics; Inflation and Capital Markets - proceedings of the OECD-CMB conference, 1986. The U.K., Holmans (1987), Italy, Mazzola (1988), Korea, Renaud. The time periods for the various countries are: Argentina and Brazil 1977-85, Malaysia 1981-85, U.S.A. 1975-86, Korea 1980-87; Italy 1975-85, and U.K. 1975-85.

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#### FOOTNOTES

- 1/ See Goldsmith (1985) for the most complete discussion of this kind of data. Ibbotson and Siegel (1983) estimate that real estate accounts for approximately one-third of the world market wealth portfolio. Housing accounts for a larger proportion of the capital stock than of fixed capital formation because of its longer life. In the U.S., for example, the service life of residential capital used to derive wealth estimates is more than double that of any non-residential investment.
- 2/ In 11 of the countries examined by Goldsmith (1969), it is possible to identify (approximately) the share of mortgages in financial assets. The countries and their average share of financial assets in mortgages are: Argentina, 1901, .27; Denmark, 1900, .39; Egypt, 1900, .58; Germany, 1900, .28; Greece, 1929, .07; Italy, 1908, .12; Netherlands, 1900, .10; Spain, 1913, .04; Switzerland, 1900, .18; U.S., 1900, .18; Yugoslavia, 1929, .08; average, .21, median, .18.

The beginning of the 20th century was used rather than more recent data because 6 of the 11 countries in the survey are now industrialized, and their current financial asset holdings should reflect this pattern of real asset demand rather than the pattern that might be associated with an industrializing, urbanizing economy.
- 3/ To examine the housing tenure patterns of developing countries a regression equation was estimated for 42 countries. The percent of housing units that were owner-occupied was regressed on per-capita income and the level of urbanization. The hypothesis that homeownership is a primitive form of tenure and inversely related to both the level of income and urbanization was supported. Both variables were statistically significant "explanators." Hence the conclusion in the text on the higher likelihood of homeownership and more individually based housing finance demand in developing countries. The data on tenure are from Boleat (1985).
- 4/ See Buckley et al (1988) for a review and analysis of World Bank lending for housing finance. See Currie (1966) for one of the exceptions to this lack of attention to the role of housing finance in economic development.
- 5/ For example, U.S. studies estimate that the service life of residential investments in 1 to 4 unit structures is 80 years. Industrial buildings have a service life of 31 years. See U.S. Department of Commerce (1987). Pg. xxii.

- 6/ Cunningham and Hendershott (1984) provide a good example of analyses that focus on the optimal default strategy. They suggest that in the U.S. the indirect transactions costs of defaulting should be on the order of 20 percent of the loan amount. Foster and Van Order (1985) provide empirical support for the conclusion that households face high transactions costs which reduce the speed at which households exercise their "put" options, and by defaulting essentially sell the house to the lender or insurer in exchange for the mortgage.
- 7/ See Gultekin's (1983) analysis of stock market returns in various countries and the effect of inflation on these returns.
- 8/ In countries that are already highly urbanized, such as the U.S. or Latin America, in some areas of the country housing can be a risky investment.
- 9/ See Lessard and Modigliani (1975).
- 10/ Housing Sector Report, Turkey, USAID-World Bank (1989).
- 11/ These calculations ignore the effects of the higher house price-to-income ratio that obtains in Turkey. This approach was taken to focus on the direct effects of inflation on mortgages affordability.
- 12/ See Fishlow (1978) for a discussion of the policy objectives of indexation in Brazil.
- 13/ Goldsmith's (1987) work on Premodern Financial Systems indicates that the cost differential for mortgage debt was substantial. Wai's (1977) analysis yields similar results for developing countries.
- 14/ For example, Fons (1987) shows that U.S. investors who received a yield differential of 3.5 percent for holding corporate debt that was not of AAA quality were compensated for losses due to default. Kau and Sirmans (1984) also found urban land to be a less risky asset than high grade corporate bonds.
- 15 See footnote 6 on optimal default strategies.
- 16/ See the World Bank Paper on Financial Intermediation (1985). It indicates that one-third of the development finance institutions that received World Bank loans were technically insolvent.

- 17/ See the 1988 regulatory requirements recommended by the Bank for International Settlements. They identify mortgages as being much less risky financial assets. Ironically, the most significant mispricing of risks that occurred in the U.S. financial system in recent years was that of its main mortgage lenders, the savings and loan associations. However, the mispricing was due to structure of deposit insurance and not the type of lending under taken.
- 18/ See Burns and Grebler (1975).
- 19/ The Shah Report (1978) to the Reserve Bank of India.
- 20/ Williamson (1983) provides a proof of why better terms should be offered to a transactor who offers a "hostage" that insures his fulfillment of the contract. Timberg and Aijar (1984) present credit market rates information for India.
- 21/ Goldsmith (1985). The countries are the U.K., U.S., Germany, and France.
- 22/ This is not to suggest that reducing minimum housing costs by changing Indian building standards is unimportant.
- 23/ See Akerlof's (1970) discussion and the sources there.
- 24/ Morris (1985).
- 25/ Charavarty Report, Reserve Bank of India (1985).
- 26/ See Malpezzi and Mayo (1985) for estimates of income housing expenditure levels by income level.
- 27/ See Renaud (1989) for a fuller discussion of the preconditions necessary to establish a housing finance system.

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